AMENDMENTS TO THE CLAIMS

The listing of claims will replace all prior versions, and listings, of claims in the application:

Listing of Claims:

1. (Currently Amended) A visualization processing system for generation of a stereoscopic image based on a vector field, comprising:

a computer;

a set of data structures employed as computer components of the computer, the set of data structures defining the vector field, a three-dimensional coordinate space, and a two-dimensional plane; and

a set of computer programs employed as computer components of the computer, the set of computer programs comprising:

a first subset thereof for mapping the vector field in the three-dimensional coordinate space to obtain a corresponding sequence of coordinate points;

a second subset thereof for determining ~~an elevation degree as an aboveground opening~~ a degree of openness defined about a focused point at a local region of a plane connecting the sequence of coordinate points, by a region at an obverse side of the plane residing within a prescribed radius from the focused point as an elevation degree of said local region;

a third subset thereof for determining ~~a depression degree as an underground opening~~ a degree of openness defined about the focused point at said local region of the plane connecting the sequence of coordinate points, by a region at a reverse side of the plane residing within the prescribed radius from the focused point as a depression degree of said local region;

a fourth subset thereof for synthesizing the elevation degree and the depression degree in a weighting manner to determine ~~an elevation depression degree~~ a degree of openness defined about the focused point at said local region of the plane connecting the sequence of coordinate points, by a combination of the region at the obverse side and the

region at the reverse side of the plane residing within the prescribed radius from the focused point, as an elevation-depression degree of said local region;

a fifth subset thereof for mapping the three-dimensional coordinate space on the two-dimensional plane, providing a tone indication commensurate with the elevation-depression degree of said local region to a region on the two-dimensional plane corresponding to said local region of the plane connecting the sequence of coordinate points; and

a sixth subset thereof for determining an inclination distribution of the plane connecting the sequence of coordinate points, the fifth subset providing on the two-dimensional plane said tone indication for a brightness of a color-toned indication of the inclination distribution.

2. (Currently Amended) The visualization processing system as claimed in claim 1, wherein the elevation degree is defined in terms of a see-through solid angle about the focused point with respect to [[at]] an obverse side ~~within~~ of a range of the plane connecting the sequence of coordinate points.

3. (Currently Amended) The visualization processing system as claimed in claim 2, wherein the depression degree is defined in terms of a see-through solid angle about the focused point with respect to [[at]] a reverse side of a ~~within said~~ range of the plane connecting the sequence of coordinate points.

4. (Cancelled)

5. (Currently Amended) The visualization processing system as claimed in claim [[4]] 1, wherein the sixth subset provides the color-toned indication of the inclination distribution in red colors.

6. (Previously Presented) The visualization processing system as claimed in claim 1, wherein the set of computer programs further comprises:

a seventh subset thereof for connecting, among the sequence of coordinate points, those coordinate points equivalent of an attribute in the vector field to obtain an attribute isopleth line; and

an eighth subset thereof for mapping the attribute isopleth line on the two-dimensional plane given said tone indication.

7. (Cancelled)

8. (Currently Amended) A visualization processing method for generation of a stereoscopic image based on a vector field, comprising the steps of:

mapping the vector field in a three-dimensional coordinate space to obtain a corresponding sequence of coordinate points;

determining ~~an elevation degree as an aboveground opening~~ a degree of openness defined about a focused point at a local region of a plane connecting the sequence of coordinate points, by a region at an obverse side of the plane residing within a prescribed radius from the focused point, as an elevation degree of said local region;

determining ~~a depression degree as an underground opening~~ a degree of openness defined about the focused point at said local region of the plane connecting the sequence of coordinate points, by a region at a reverse side of the plane residing within the prescribed radius from the focused point as a depression degree of said local region;

synthesizing the elevation degree and the depression degree in a weighting manner to determine ~~an elevation-depression degree~~ a degree of openness defined about the focused point at said local region of the plane connecting the sequence of coordinate points, by a combination of the region at the obverse side and the region at the reverse side of the plane residing within the prescribed radius from the focused point, as an elevation-depression degree of said local region;

mapping the three-dimensional coordinate space on the two-dimensional plane, providing a tone indication commensurate with the elevation-depression degree of said local region to a region on the two-dimensional plane corresponding to said local region of the plane connecting the sequence of coordinate points;

determining an inclination distribution of the plane connecting the sequence of coordinate points, providing on the two-dimensional plane said tone indication for a brightness of a color-toned indication of the inclination distribution; and

displaying on a display the two-dimensional plane with the tone indication.

9. (Currently Amended) A computer readable medium encoded with:

a set of data structures employable as computer components, the set of data structures defining a vector field, a three-dimensional coordinate space, and a two-dimensional plane; and

a set of programs employable as computer components for visualization processing for generation of a stereoscopic image based on the vector field, the set of programs comprising:

a first subset thereof for mapping the vector field in the three-dimensional coordinate space to obtain a corresponding sequence of coordinate points;

a second subset thereof for determining ~~an elevation degree as an aboveground opening~~ a degree of openness defined about a focused point at a local region of a plane connecting the sequence of coordinate points, by a region at an obverse side of the plane S residing within a prescribed radius from the focused point, as an elevation degree of said local region;

a third subset thereof for determining ~~a depression degree as an underground opening~~ a degree of openness defined about the focused point at said local region of the plane connecting the sequence of coordinate points, by a region at a reverse side of the plane S residing within the prescribed radius from the focused point, as a depression degree of said local region;

a fourth subset thereof for synthesizing the elevation degree and the depression degree in a weighing manner to determine ~~an elevation-depression degree~~ a degree of openness defined about the focused point at said local region of the plane connecting the sequence of coordinate points, by a combination of the region at the obverse side and the region at the reverse side of the plane residing within the prescribed radius from the focused point, as an elevation-depression degree of said local region;

a fifth subset thereof for mapping the three-dimensional coordinate space on the two-dimensional plane, providing a tone indication commensurate with the elevation-depression degree of said local region to a region on the two-dimensional plane corresponding to said local region of the plane connecting the sequence of coordinate points; and

a sixth subset thereof for determining an inclination distribution of the plane connecting the sequence of coordinate points, the fifth subset providing on the two-dimensional plane said tone indication for a brightness of a color-toned indication of the inclination distribution.

10. – 12. (Cancelled)

13. (Currently Amended) A visualization processing system for generation of a stereoscopic image based on a vector field, compromising:

a computer;

a set of data structures employed as computer components of the computer, the set of data structures defining the vector field, a three-dimensional coordinate space, and a two-dimensional plane; and

a set of computer programs employed as computer components of the computer, the set of computer programs comprising:

a first subset thereof for mapping the vector field in the three-dimensional coordinate space to obtain a corresponding sequence of coordinate points;

a second subset thereof for determining ~~an elevation degree~~ a see-through solid angle defined about a focused point at a local region of a plane connecting the sequence of coordinate points ~~in terms of a see-through solid angle about said local region~~, by a region at an obverse side of the plane ~~connecting the sequence of coordinate points~~ residing within a prescribed radius from the focused point, as an elevation degree of said local region;

a third subset thereof for determining ~~a depression degree~~ a see-through solid angle defined about the focused point at said local region of the plane connecting the sequence of coordinate points ~~in terms of a see-through solid angle about said local region~~, by a region at a reverse side of the plane ~~connecting the sequence of coordinate points~~ residing within the prescribed radius from the focused point, as a depression degree of said local region;

a fourth subset thereof for synthesizing the elevation degree and the depression degree in a weighting manner to determine ~~an elevation-depression degree~~ a degree of openness defined about the focused point at said local region of the plane connecting the sequence of coordinate points, by a reverse side of the plane residing within the prescribed radius from the focused point, as an elevation-depression degree of said local region; and

a fifth subset thereof for mapping the three-dimensional coordinate space on the two-dimensional plane, providing a tone indication commensurate with the elevation-depression degree of said local region to a region on the two-dimensional plane corresponding to said local region of the plane connecting the sequence of coordinate points.

14. (Previously Presented) The visualization processing system as claimed in claim 13, wherein the set of computer programs further comprises:

a sixth subset thereof for determining an inclination distribution of the plane connecting the sequence of coordinate points; and

the fifth subset providing on the two-dimensional plane said tone indication for a brightness of a color-toned indication of the inclination distribution.

15. (Previously Presented) The visualization processing system as claimed in claim 14, wherein the sixth subset provides the color-toned indication of the inclination distribution in red colors.

16. (Previously Presented) The visualization processing system as claimed in claim 13, wherein the set of computer programs further comprises:

a seventh subset thereof for connecting, among the sequence of coordinate points, those coordinate points equivalent of an attribute in the vector field to obtain an attribute isopleth line; and

an eighth subset thereof for mapping the attribute isopleth line on the two-dimensional plane given said tone indication.